

**Title:** Industry Energy Optimization A Case Study in a Biodiesel Production Site

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**Abstract:** This paper presents a case study of heat exchanger network (HEN) retrofit with the objective to reduce the utilities consumption in a biodiesel production process. Pinch analysis studies allow determining the minimum duty utilities as well the maximum of heat recovery. The existence of heat exchangers for heat recovery already running in the process causes a serious restriction for the implementation of grassroot HEN design based on pinch studies. Maintaining the existing HEN, a set of alternatives with additional heat exchangers was created and analysed using some industrial advice and selection criteria. The final proposed solution allows to increase the actual 18 % of recovery heat of the all heating needs of the process to 23 %, with an estimated annual saving in hot utility of 35 k(sic)/y.

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